

Owner's Manual



SK-800.1

SK-1500.1

SK-2500.1

SK-3500.1

SK-4500.1

SK-85.4

SOUND QUALITY AMPLIFIER

1. INTRODUCTION

Congratulations and thank you for purchasing Skar audio amplifiers, the logical choice in mobile audio amplification. Your amplifiers have been designed and engineered with the highest quality components and top of the line workmanship to help you reach the superior sound you are after. To achieve optimal performance of your system, please take a few moments to read over this Owner's manual or visit authorized dealer if needed before starting your installation.

2. DESIGN FEATURES

- STRAPPABLE, HIGH EFFICIENT & HIGH POWER DIGITAL MONOBLOCK AMPLIFIERS
- STABLE INTO 10HM LOAD FOR MONOBLOCK

➤ 180° VARIABLE PHASE CONTROL FOR SK-800.1, SK-1500.1, SK-3500.1 &SK-4500.1
- STABLE INTO 20HM STEREO FOR SK-85.4

➤ 4 WAY PROTECTION CIRCUITS (THERMAL, HIGH & LOW VOLTAGE, SHORT & DC)
- HIGH SPEED MOSFET POWER SUPPLY

➤ REMOTE GAIN CONTROL
- 24dB/OCT, VARIABLE CROSSOVER FOR SK-800.1, SK-1500.1, SK-3500.1 &SK-4500.1

➤ HIGH PURITY COPPER PRINTED BOARDS
- 12dB/OCT, VARIABLE CROSSOVER FOR SK-85.4

➤ 4 & 0 GAUGE POWER & GROUND TERMINALS
- 9dB/OCT, VARIABLE BASS BOOST FOR SK-800.1, SK-1500.1, SK-3500.1 &SK-4500.1

➤ HAND-MADE HIGH GRADE POWER SUPPLY
- 18dB/OCT, VARIABLE BASS BOOST FOR SK-85.4

3. SPECIFICATIONS

3-1. Digital monoblock specifications

FEATURES	SK-800.1	SK-1500.1	SK-2500.1	SK-3500.1	SK-4500.1
Power @ 4ohm	340W x 1	500W x 1	790W x 1	1200W x 1	1500W x 1
Power @ 2ohm	570W x 1	930W x 1	1450W x 1	2050W x 1	2800W x 1
Power @ 1ohm	820W x 1	1700W x 1	2500W x 1	3500W x 1	4900W x 1
Strappable Power					
Power @ 4ohm	1140W x 1	1860W x 1	2900W x 1	4100W x 1	5600W x 1
Power @ 2ohm	1640W x 1	3400W x 1	5000W x 1	7000W x 1	9800W x 1
Frequency Response	15~270Hz	15~270Hz	15~270Hz	15~270Hz	15~270Hz
Signal to Noise Ratio	95dB	95dB	95dB	95dB	95dB
Damping Factor	200 <	200 <	200 <	200 <	200 <
Input Sensitivity	6V~0.2V	6V~0.2V	6V~0.2V	6V~0.2V	6V~0.2V
Low Pass Filter	35~250Hz	35~250Hz	35~250Hz	35~250Hz	35~250Hz
Subsonic Filter	10~50Hz	10~50Hz	10~50Hz	10~50Hz	10~50Hz
Bass Boost (@ 45Hz)	0~9dB	0~9dB	0~9dB	0~9dB	0~9dB
Phase Shift (Degree)	0~180	0~180	0~180	0~180	0~180
Master / Slave connection	to 2ohm	to 2ohm	to 2ohm	to 2ohm	to 2ohm
Remote Gain Control	Included	Included	Included	Included	Included
Power & Ground terminals.	4 Ga	0 Ga	0 Ga	0 Ga	0 Gax2pcs
Working Voltage (High & Low)	8.5V~16V	8.5V~16V	8.5V~16V	8.5V~18V	8.5V~18V
External Fuse Rate (Single Unit)	80A	160A	250A	350A	450A
External Fuse Rate (Strappable)	160A	320A	500A	700A	900A

All features are subject to change in the continuing effort to improve the products without notice.

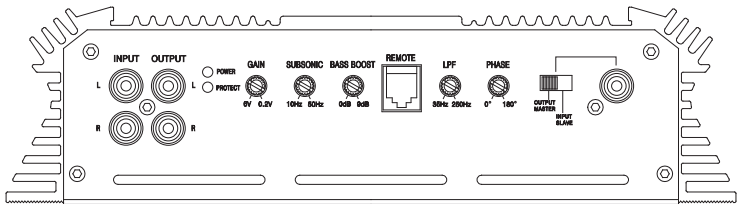
3-2. 4CH Class AB specification

FEATURES	5K-85.4
Power @ 4ohm	85W x 4
Power @ 2ohm	125W x 4
Power @ 4ohm mono	250W x 2
Frequency Response	20Hz~30KHz
Signal to Noise Ratio	105dB
Damping Factor	300 <
Input Sensitivity	6V-0.2V
High Pass Filter	50Hz-5KHz
Low Pass Filter	50Hz-5KHz
Crossover Selector	HPF / FULL / LP-BP
Bass Boost (@ 45Hz)	0~18dB
Remote Gain Control	Included
Power & Ground terminals.	4Ga
RCA Lineout	Included
Mode switch	CH2 / CH4
Working Voltage (High & Low)	~ 14.4V
Fuse Rate	30A x 2

All features are subject to change in the continuing effort to improve the products without notice.

4. CONTROLS & CONNECTIONS

4-1. DIGITAL MONOBLOCK CONTROL



RCA JACK INPUT
Low Level Rca Input will accept the signal from the output of head units. Plug in Rca jack cables from the head unit.

RCA JACK OUTPUT
The preamp output is a full range signal mixed from both input channels. Use this signal to feed a secondary full range amplifier in the system.

POWER & PROTECTION LED
Power LED, Green-lit shows correct operation.
Protect LED, RED-lits shows general malfunction, faulty connection and thermal protection.

GAIN CONTROL (6V ~ 0.2V)
The gain control adjusts the gain level, so that this is used to match the signal level of different headunits.

SUBSONIC FILTER (10Hz ~ 50Hz @ 24dB / Oct slope)
Control the high Pass point for the speaker outputs to eliminate extreme low frequencies.

BASS BOOST (0 ~ 9dB @ 45Hz)
It adjusts for up to 9dB of additional gain at that frequency.

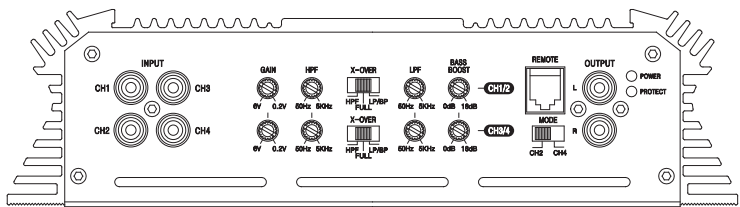
REMOTE CONTROL PORT
When using the remote control in a multi amp system the remote of the master amp will control all amps in the system. Remote control can be mounted around driver's seat for easy access.

LOW PASS FILTER (35Hz ~ 250Hz @ 24dB / Oct slope)
The crossover features a steep 24dB oct slope Linkwitz-Riley low pass crossover ensuring that only the lowest frequencies are reproduced by the amplifier.

PHASE SHIFT (0 ~ 180 degrees)
The adjustable Phase control will help fine tune your bass system to time align with your midrange and high frequency speakers.

OUTPUT MASTER / INPUT SLAVE CONNECTION
Output Master / Input Slave connection makes chain connection to minimum impedance 2 ohm.

4-2. SK-85.4 4CHANNELS CONTROL



RCA JACK INPUT
Low Level Rca Input will accept the signal from the output of head units. Plug in Rca jack cables from the head unit.

GAIN CONTROL (0V ~ 0.2V)
The gain control adjusts the gain level, so that this is used to match the signal level of different headunits.

HIGH PASS FILTER (50Hz ~ 5KHz @ 12dB / Oct slope)
The crossover features a steep 12dB oct slope Linkwitz-Riley high pass crossover ensuring that only the highest frequencies are reproduced by the amplifier.

X-OVER SLECTOR SWITCH (HPF/FULL/LP-BP)
Selected x-over is in effective.

LOW PASS FILTER (50Hz ~ 5KHz @ 12dB / Oct slope)
The crossover features a steep 12dB oct slope Linkwitz-Riley low pass crossover ensuring that only the lowest frequencies are reproduced by the amplifier.

BASS BOOST (0 ~ 18dB @ 45Hz)
It adjusts for up to 9dB of additional gain at that frequency.

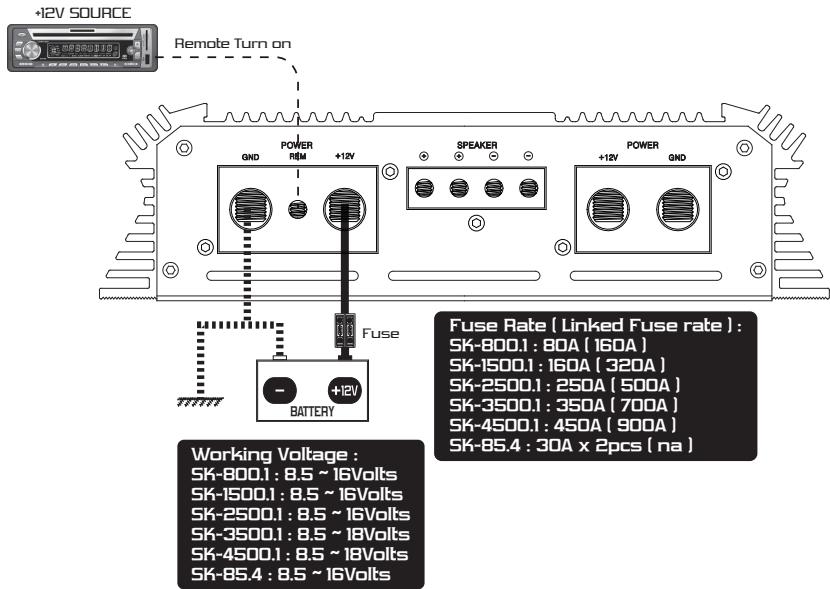
REMOTE CONTROL PORT
Plug remote controller to this port for remote gain control Remote control can be mounted around driver's seat for easy access.

MODE SWITCH (CH2 / CH4)
Mode switch selects how many Rca jack input is used.

RCA JACK OUTPUT
The preamp output is a full range signal mixed from both input channels. Use this signal to feed a secondary full range amplifier in the system.

POWER & PROTECTION LED
Power LED, Green-lit shows correct operation.
Protect LED, RED-lits shows general malfunction, faulty connection and thermal protection.

4-3. POWER, REMOTE & GROUND CONNECTION



GND (GROUND)

Locate a secure grounding connection as close to amplifier as possible.

Make sure the location is clean and provides a direct electrical connection to the frame of the vehicle.

The ground needs to have as low of a resistance as possible.

Connect one end of a short piece of the same size cable as the power cable to the grounding point or to one of your batteries or battery bank.

Run the other end of the 0 or 4 gauge cable to the mounting location of the amplifiers for connection to the amplifiers ground terminals and connect the ground cable to the GND (ground terminal).

REM (REMOTE)

Run a remote turn on cable from the switched +12V source . This may be a toggle switch, a relay,

your source unit's remote trigger cables, or power antenna trigger cable. Connect the remote turn on cable to the REM (remote) terminal.

12V (POWER CONNECTION)

Before mounting amplifiers, disconnect the negative (-) cable from the battery to protect any accidental damage to your awesome amplifiers and audio system.

All amplifiers are designed to use 4 or 0 gauge power and ground connection.

Connect the power cables to power terminal +12V.

SK-800.1 and SK-85.4 has built-in fuses but The other amplifiers are not equipped with fuses so that external fuses should be used.

Connect one end of fuse holder to the power cable going into the amplifiers and the other end of fuse holder to positive battery.

This fuse location will protect the system and the vehicle against the possibility of a short circuit in the power cable.

Be sure to use fuses and fuse holder adequate for the application.

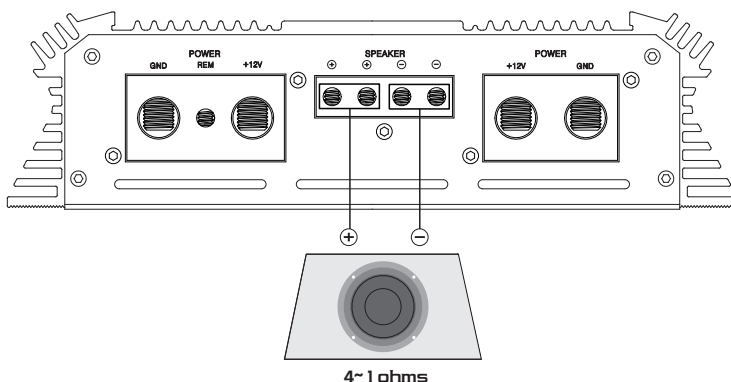
SPEAKER OUTPUT

This terminal connects the amplifiers to the speaker systems. Minimum speaker cable should be larger than 12 gauge.

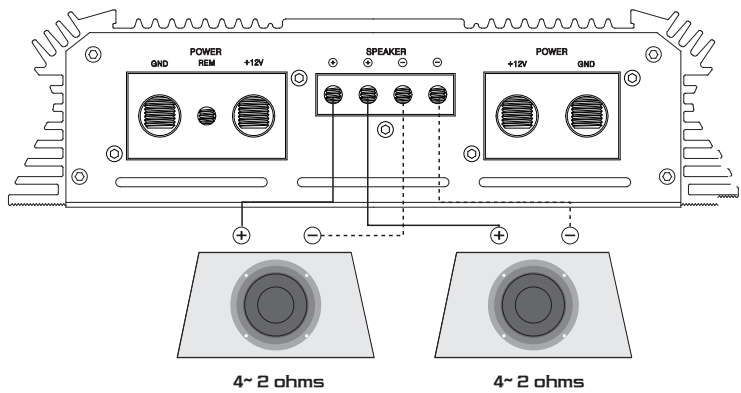
Connect carefully the subwoofer speakers by checking the impedance 1ohm or 2ohm for link connection to SK-800.1, SK-1500.1, SK-2500.1, SK-3500.1 & SK-4500.1 or full range speakers to SK-85.4 as 2ohm stereo or 4ohm mono stable.

4-4. SPEAKER CONNECTION

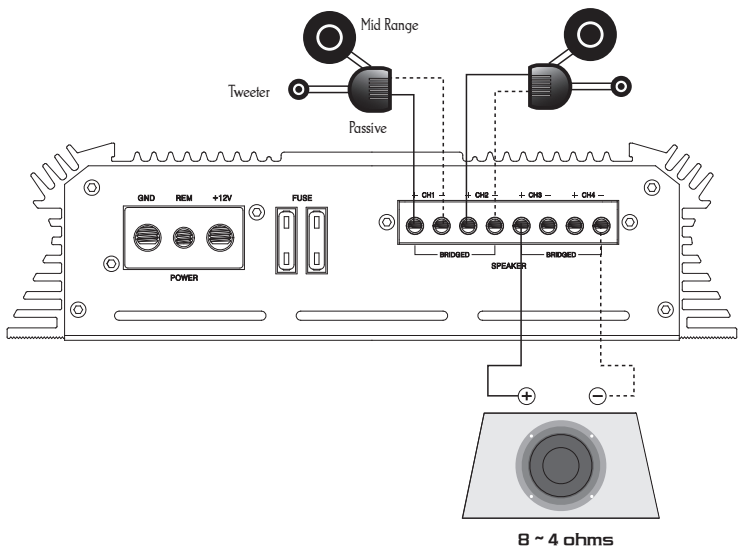
DIGITAL MONOBLOCK SPEAKER CONNECTION 1



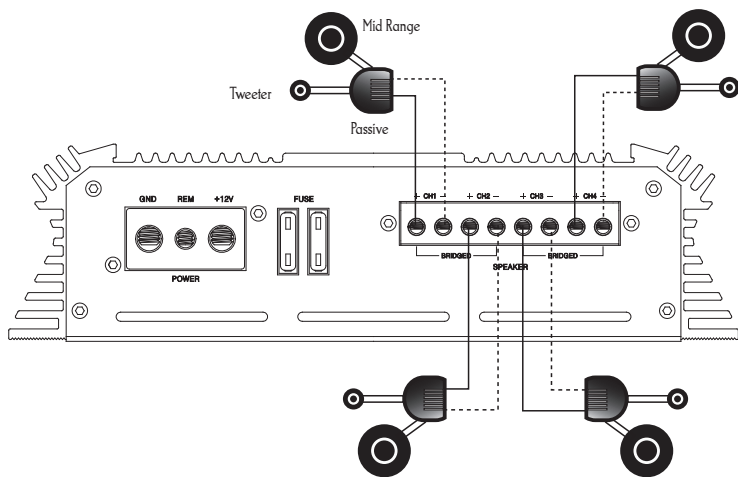
DIGITAL MONOBLOCK SPEAKER CONNECTION 2



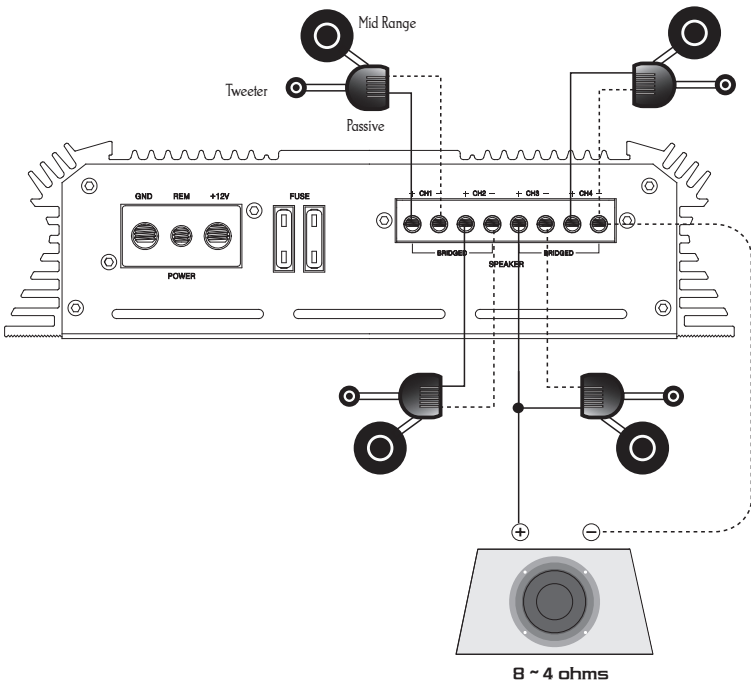
SK-85.4 4CHANNELS SPEAKER CONNECTION 1



SK-85.4 4CHANNELS SPEAKER CONNECTION 2



SK-85.4 4CHANNELS SPEAKER CONNECTION 3



5. STAPPABLE CONNECTION

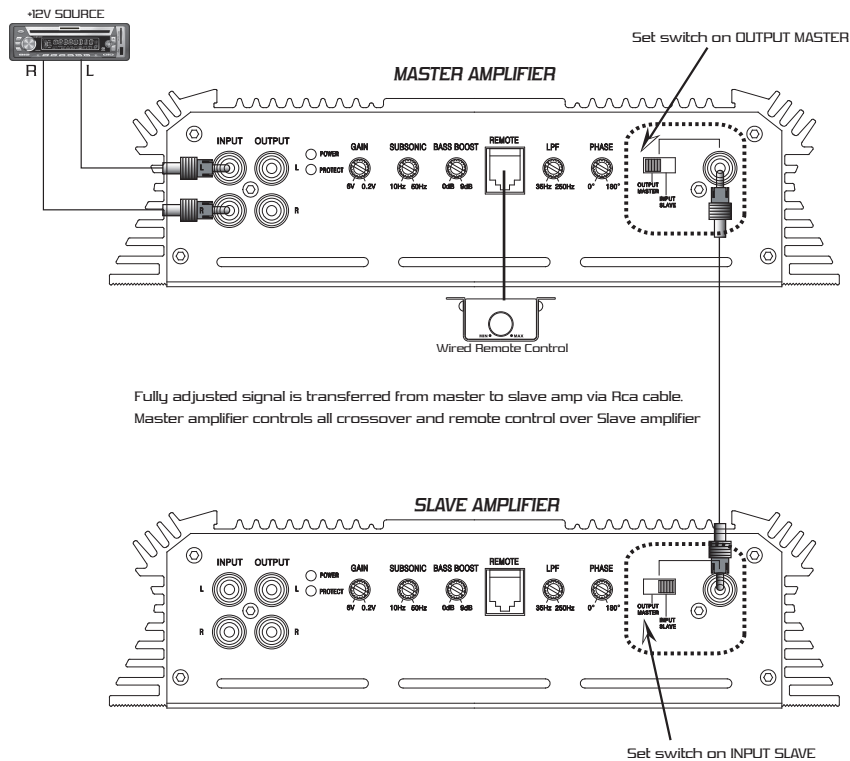
Strappable connection makes two of same amplifiers bridged to 2ohm.
so Strappable connection make the power double than their's each 1ohm power.
Please read the following connection and diagram carefully to make correct connection.

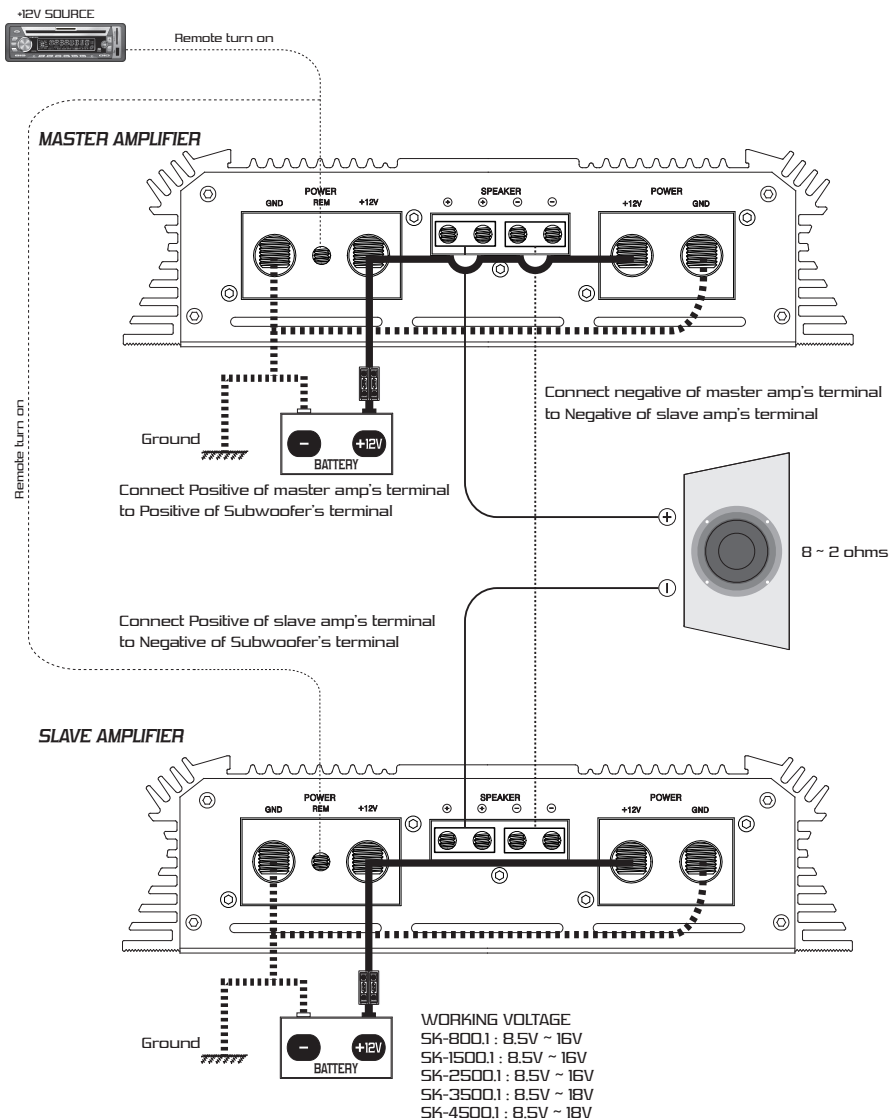
INPUT CONNECTION :

- Step 1. Connect the Master amplifier to the head-unit and set its output master / input slave switch to output master.
- Step 2. Set Slave amplifier output master / input slave switch to slave input.
- Step 3. Connect RCA cable from the master to slave amplifier as shown in the diagram.

POWER & SPEAKER CONNECTION :

- Step 1. Connect speaker cable (+) on master amplifier to subwoofer (+)
- Step 2. Connect speaker cable (+) on slave amplifier to subwoofer (-)
- Step 3. Connect speaker cable (-) on master amplifier to speaker cable (-) on slave amplifier





Caution !!

In strappable connection.

Minimum working impedance is 2ohm.
Impedance lower than 2ohm can damage the amplifiers

6. TROUBLE SHOOTING

NO SOUND (NO OUTPUT)

- Ⓜ Please check all connections, cables' routing, short & voltage
- Ⓜ Please check the fuses . If they are blown, please replace with new one.
- Ⓜ Please check whether speakers work well, you can test speakers by connecting to another amplifier

PROTECTION

- Ⓜ Please check overload, overheat (thermal), short and voltage, DC offset.
- Ⓜ Minimum working impedance is 1 ohm for SK-800.1, SK-1500.1, SK-2500.1, SK-3500.1 & SK-4500.1 as single unit and 2 ohm stable for strappable connection.
SK-85.4 is 2ohm stereo or 4ohm mono.
- Ⓜ If amplifiers are shut down due to heat, they will be on some minutes later after cooling down.
Please make better airflow and no obstruction around amplifiers for thermal protection.
- Ⓜ SK-800.1, SK-1500.1 and SK-2500.1's working voltage is 8.5 ~ 16Volts.
SK-3500.1 & SK-4500.1's working voltage is 8.5 ~ 18Volts
- Ⓜ When over 4V DC comes into amplifiers, then, they will be DC protected.
Check whether amplifiers work after removing RCA-Input.
If amplifiers work, then check DC by checking RCA-input .
When DC is over 4V at input, try by replacing +12V source unit .

DISTORTION & NOISE

- Ⓜ Readjust input level and check the speaker quality at another amplifier.
Replace poor quality speakers with good quality ones.
- Ⓜ Check amplifiers and headunit's ground contact. all grounds should be common.
- Ⓜ Check Rca Jack, then replace with new one or reroute Rca Jack.
- Ⓜ Engine noise is caused by poor grounding of amplifiers, headunit, other components, battery or alternator; so please check all grounding connection.

POOR BASS RESPONSE

- Ⓜ Please check speaker cables and reverse polarity.

